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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/789,794 | 02/28/2004 | William Turin | Turin 1999-0078cont | 9428 |
| 26652 | 7590 | 08/31/2007 | | |
| AT&T CORP. ROOM 2A207 ONE AT&T WAY BEDMINSTER, NJ 07921 | | | | |
| EXAMINER | | | | |
| TRAN, KHANH C | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2611 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 08/31/2007 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/789,794

Applicant(s)

TURIN, WILLIAM

Examiner

Khanh Tran

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 and 25 is/are allowed.
- 6) ☒ Claim(s) 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on 06/20/2007 has been entered. Claims 23-25 are pending in this Office action.

Response to Arguments

2. Applicant's arguments, see Applicant's Remarks, filed on 06/20/2007, with respect to the rejection(s) of claim(s) 23 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hagenauer et al. U.S. Patent 6,377,610 B1.

3. The Terminal Disclaimer filed on 06/20/2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 23 is rejected under 35 U.S.C. 102(e) as being anticipated by Hagenauer et al. U.S. Patent 6,377,610 B1.

Regarding claim 23, Hagenauer et al. teaches in FIG. 2 shows a representation of the decoder structure, with feedback, for a coherent receiver. From a receiver, e.g., an L-finger RAKE receiver, one obtains the vector y of the length N for each transmitted Walsh function x having systematic bits u_k , $k=0, \dots, K-1$; see column 4 lines 40-65. Further in column 5 lines 1-35, the MAP decoder for this block code, internal code, is expressed by the equation [2], which includes a product of the conditional probabilities of $P(x/y)$. Further in column 2 lines 15-30, Hagenauer et al. teaches soft output is used by a decoder, ***in particular a MAP decoder***, as a-priori information for the systematic bits of the Walsh function of the internal code for decoding of the same. To enhance the reliability of the decisions of the internal decoder, ***a feedback (iterative decoding)*** from the external to the internal decoder can be performed at least once, and the decisions (extrinsic information) of the second, external decoder about the systematic bits of the code words of the internal code, for example of the Walsh functions, can be fed back as a-priori information to the input of the first, internal decoder; see also FIG. 2. In light of the aforementioned disclosure, equation [2] is iteratively maximized.

Allowable Subject Matter

5. Claims 24-25 are allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hladik et al. U.S. Patent 5,721,746 discloses "Optimal Soft-Output Decoder For Tail-Biting Trellis Codes".

Tonello U.S. Patent 6,480,552 B1 discloses "Soft Output Metrics Generation For Symbol Detectors".

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT


KHANH C. TRAN
PRIMARY EXAMINER

08/28/2007
AU 2611